

**ABSTRACT**

The invention relates to a receiver for receiving a signal of a desired user, which signal may arrive at the receiver in different components along several different paths at several different delays. The receiver comprises an antenna array composed of more than one element for receiving the signal, rake branches for demodulating the received signals, at least one search branch adapted to calculate the two-dimensional impulse response of the received signal by searching for the incoming directions and delays of the received signal components, and to transmit information on the most favorable components found to the rake branches. At least one rake branch comprises a number of beam formers, and a number of correlators coupled to the inputs of the beam formers, and a demodulator coupled to the outputs of the correlators. a code generator for generating the codes required by the correlators, control means adapted to control the operation of the code generator and the beam formers, to which control means information is received from the search branch about the incoming direction and delay of the signal component, and calculation means whose inputs comprise the outputs of the correlators, the calculation means being adapted to calculate and transmit to the control means, on the basis of the outputs of the correlators, information on how the code generator and the beam formers are to be controlled.

(Figure 3)

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